

Section 00800 (B)

Dredged Material Placement Site(s)

Payment Item 0002

Part 1 - General

1. General. All material to be dredged, exclusive of all floatable material, shall be transported and deposited at the placement site(s) identified in paragraph 2 and shown on the plans.

2. Dredged Material Upland Placement Site.

2.1. Government Furnished Placement Site. One Government furnished placement site, shown on the plans, is available for use for the work associated with this contract. This site is currently in the process of receiving the appropriate environmental clearances subject to the conditions specified. Site specific information, including special conditions for use of the site are identified below. The Contractor is advised to thoroughly inspect the furnished placement site prior to submission of his bid.

2.1.1. Site U-3A. Site U-3A is a previously used 78-acre upland site located on the southern end of Houghtaling Island. Approximately one half of the site (divided into two subareas) was last used in 1998 for a previous maintenance dredging project. The general site elevations range from approximately 24' to 48' NGVD 29. The site has dedicated ingress (1) and egress (1) corridors which shall be used by the Contractor for pipeline landing and spillway layout. Extensive modifications to the site and/or restrictions to dredging and placement operations may be required to meet effluent water quality standards. Contractors are advised to evaluate their dredging and placement operations accordingly. Land access is from the northerly end of upper Schodack Island. The road is approximately 6 miles long, is unpaved and unimproved, and is generally in very poor condition. The entrance section of the road is off of Route 9J and is also the entrance to Castleton Island State Park (currently under construction). The longest segment of the road leading to the Government site is across lands owned by New York State. An access permit for use of the State segment of the road by the Contractor will be obtained by the Government. The Contractor is responsible for acting in accordance with any conditions associated with the

current access permit. The Contractor is advised of the presence of adjacent wetlands along the access road which must not be disturbed. For additional site information, see Section 00900(J), Attachment ?

2.2. Avoidance of Cultural Resources. The historic remains of three ice house complex sites (Site A, Site B and Site C) are located on Schodack-Houghtaling Island. Of the three sites, only Site A is in close proximity to the proposed placement operations. Site A is located to the south of the existing effluent pipeline corridor, which has been used in all of the previous disposal operations since 1986. The Government has designated this area as an area of avoidance for the duration of the Contractor's dredging and placement operations. The Contractor will restrict his activities to the area within the existing pipeline corridor. The Contractor will be solely responsible for any damage inflicted upon this cultural resource caused by his activities. For additional site information, see Section 00900(J), Attachment ?

2.3. Site Investigation. Before using the upland placement site for deposit of the dredged material, the Contractor shall investigate the site's characteristics, capacity to various elevations, and the suitability of available materials for use in the construction of containment structures and other work required by these plans and specifications. The Contractor shall adhere to all conditions for the use specified.

Part 2 - Products (Not Used)

Part 3 - Execution

3. General. Design, construction and operation of the dredged material placement site(s) is the responsibility of the Contractor and subject to the approval of the Contracting Officer. The site(s) shall function to produce an effluent at the point of compliance that meets the minimum water quality standards as prescribed in the NYSDEC Water Quality Certification. Containment dikes are required for the use of the placement site. The Contractor shall investigate the suitability of all existing dikes and/or dike construction materials proposed for use under this contract. The Contractor shall construct new and/or rebuild and stabilize existing dikes as required to provide suitable containment of the dredged material within the placement site.

4. Dredged Material Placement and Mitigation Plan. The Contractor shall submit for approval his **Dredged Material Placement and Mitigation Plan** at a pre-construction meeting. The plan shall include the particular site(s) to be utilized, all special conditions (i.e. NYSDEC, etc.) specific to the site being used, contractor access to the site, locations and cross-sections of existing and proposed dikes, average existing ground and river/lake bottom (i.e. for pump out barge, spillway discharge pipeline, etc.) elevations, proposed maximum elevations and quantities of deposited material for the site, weir and drainage structure locations and details, manner in which the dredged material will be distributed in the areas, interim and permanent turfing/revegetation, etc. Approval of the plan by the Contracting Officer is required prior to commencing with placement site preparation. *The Contractor shall conduct his work in accordance with the Dredged Material Placement and Mitigation Plan, however, approval of the plan for development of the placement site does not in any manner relieve the Contractor of his responsibility for the adequacy of the design and construction and drainage facilities required.*

5. Pre-Construction Site Visit. Prior to actual construction of the placement site, the Contractor and the Contracting Officer and/or his representative shall visit the site for the purpose of delineating areas of avoidance (cultural and/or wetland concerns).

6. Site Preparation.

6.1. Clearing and Grubbing. Trees will be cleared as required for the preparation and maintenance of the placement site, and for the access needs of the Contractor, as approved by the Contracting Officer. No removal of trees/vegetation is permitted as follows: beyond the outside toe of the existing or proposed dikes, with the exception of the pipeline ingress/egress corridors; within the 100-foot minimum setback from the outside edge of the existing vegetation; and those trees marked as protected. All trees/vegetation felled by the Contractor will be either hauled inside the site to the designated landfill area, left away from the dikes and completely covered at the conclusion of placement site operations; or removed from the site and disposed of at an approved location. Clearing and grubbing shall be made a part of the Contractor's Dredged Material Placement and Mitigation Plan.

6.2. Surface Soil. Existing upland surface soil that is stripped during site preparation may be stored and used to the extent possible to cover the face of the containment dikes, if this material is acceptable for the intended application and is approved by the Contracting Officer. Reuse and storage of existing surface soil shall be included in the Contractor's Dredged Material Placement and Mitigation Plan.

7. Construction and Maintenance of Containment Structures.

7.1. General. The Contractor shall construct, rehabilitate and maintain all containment dikes, weirs and drainage structures as are necessary for confining the dredged material and for controlling placement site effluent water quality until acceptance of all work under the contract.

7.2. Protection and Maintenance of Structures and Adjacent Areas. The Contractor shall be responsible for the maintenance, repair and stability of all dikes, roads and structures, used by him under the contract. The Contractor shall restore all dikes, roads, and areas he disturbs through his operations, to a condition satisfactory to the Contracting Officer, at no additional cost to the Government.

7.3. Inspection of Structures and Adjacent Areas. The Contractor shall inspect all dikes, roads, effluent weirs, and adjacent areas utilized during his operations on a continual basis to assure their integrity, safety and stability. The Contractor shall note any deficiencies observed during the inspection and the resulting corrective action(s) taken in his Daily Quality Control Report.

7.4. Dredged Material Placement Site Design Requirements.

7.4.1. Minimum Retention Time. No minimum dredged material placement site size is specified, however, the total design storage area for dredged material placement shall be sized, constructed and operated to maintain a sufficient retention time that produces an effluent which meets the requirements of the NYSDEC Water Quality Certification (estimated minimum retention time is 1-hour). Computations verifying that the site to be used has sufficient capacity to provide an adequate retention period to meet the effluent water quality standards shall be included in the Contractor's Dredged Material Placement and Mitigation Plan.

7.4.2. Minimum Ponding Depth. The Contractor should maximize the ponding depth throughout the placement operation to maximize retention times and effective settling. The minimum ponding depth over the design storage surface area(s) shall be 2 feet, except during the initial development and decanting of the pond(s).

7.4.3. Height of Containment Structures. If a hydraulic dredge or unloader is used, the minimum height of containment area structures shall be determined by the Contractor based on the following formula for computing the containment volume required to maintain a 1-hour minimum retention time:

$$V_r = F_e Q T = 2.25 Q T$$

Where: V_r = volume required to maintain 1-hr retention time

F_e = factor to account for hydraulic inefficiency of containment area = 2.25

Q = flow rate = assume flow rate of hydraulic dredge or unloader, if used

T = required retention time

The following table provides values of V_r for various dredge sizes and flow rates. These values are given to the Contractor as a guide FOR INFORMATIONAL PURPOSES ONLY:

<u>Retention Time</u>				
<u>Dredge Size (in)</u>	<u>Q (cfs)</u>	<u>(1 hr = 3600 secs)</u>	<u>V_r (CF)</u>	<u>VR (CY)</u>
20	30	3600	243000	9000
16	20	3600	162000	6000
10	7	3600	56700	2100

7.5. Containment Dikes.

7.5.1. Location. The outside toe of the perimeter containment dikes shall be located no closer than 100 feet from the shoreward edge of existing vegetation and any designated freshwater wetland areas, except as delineated and marked by the Government.

7.5.2. Side Slopes. The Contractor is responsible for the design and construction of side slopes that will ensure the stability of the containment dikes throughout the dredging and placement operations. However, at no time shall side slopes be steeper than 1V on 1H (interior) and 1V on 1.5H (exterior).

7.5.3. Height. Containment dikes shall be constructed to a height which is equal to the minimum height required to maintain a 1-hour retention (V_r) plus 2 feet of freeboard. Freeboard shall be understood to mean the measurement from the surface of the retained materials, including water, to the top of the adjacent containment dike. Finished height elevations shall not include overbuilding allowances where settlement is anticipated. Where a substantial increase in the elevation of the retaining dike is necessary, the retaining dike shall be rebuilt rather than topped.

7.5.4. Top Dimensions. Containment dikes shall be constructed with grade stakes placed at no greater than 200 foot intervals to obtain a reasonably uniform top elevation. During use of the placement site, all containment dikes shall be maintained so as to have a minimum top width of 4 feet and a minimum freeboard of 2 feet at all locations.

7.5.5. Containment Dike Material and Construction. Material used to build or top containment dikes shall be approved for use in this application and be taken from inside the placement site, except where otherwise specified or directed by the Contracting Officer. Material shall not be taken within 10 feet of the inside toe of an existing containment dike. The borrowing of material from outside the placement site limits shown on the drawings shall not be permitted unless approved by the Contracting Officer. Borrow material and the surface upon which it is to be placed shall be free of all debris, timber and accumulations of vegetation. Dike material shall be placed in approximately equal layers not exceeding 12 inches in loose thickness and shall be compacted by the controlled traffic of spreading, hauling, or shaping equipment over each layer. Equipment shall be operated on the fill in a manner that covers as much of the fill surface as possible during traffic compaction.

7.5.6. Prohibited Construction Practices. The hydraulic placing of perimeter containment dikes shall not be permitted. The dredge pipeline shall not be permitted to enter the placement site through a perimeter or exterior dike.

7.6. Spillways.

7.6.1. General. During placement operations, drainage of the area shall be only through spillways of dimensions and construction as approved by the Contracting Officer.

7.6.2. Specifications. The spillway(s) shall be a longitudinal weir or series of weirs of uniform elevation. Spillways shall be structurally designed and constructed to withstand anticipated loading at maximum ponding elevations. If a saw-tooth arrangement of short weirs is used, the length of the indentations shall not exceed the width of the weir between indentations. The spillway(s) shall be constructed to allow flashboards to be added to raise the elevation of the weir and ponded water.

7.6.3. Standpipe Weirs. Standpipe weirs shall not be allowed.

7.6.4. Walkways. The Contractor shall ensure that all spillways have structurally sound access walkways, with hand rails from the dike to the weir, to enable personnel access for collecting samples of the mixture going over the weir, and for inspection and maintenance of the weir.

7.6.5. Flashboards. Flashboards shall be sound, structural lumber and free of any damage or defect which would impair it's usefulness or durability. Boards added to raise the elevation of the weir shall fit tightly on the lower boards and in the supporting framework. Flashboards shall be securely fastened in place so that they cannot be removed by unauthorized personnel. Flashboards shall be stored at the weir site in ready condition for regulation of the weir and pond height, and for immediate implementation of necessary corrective measures.

7.6.6. Effluent Spillway. The effluent spillway and discharge pipeline shall be located within the egress corridor designated for this purpose. The effluent spillway water shall be discharged to the waterway by pipeline. The effluent shall not be allowed to enter existing wetlands outside the diked areas nor shall any of these areas be disturbed.

7.6.7. Effluent Spillway Discharge Pipeline. The spillway discharge pipeline shall extend a minimum of 8 feet from the shoreline, at low water, into the waterway and shall have a diffuser at the end of the pipeline that is approved by the Contracting Officer. The discharge outlet opening shall be entirely submerged a minimum of 1 foot below the water's surface at all times. A diffuser shall be used to dissipate the force of the water returning to the waterway and shall prevent the scouring of the bottom material below and adjacent to the discharge outlet. Any pipeline extending into the waterway shall be adequately marked so as not to constitute a hazard to navigation.

7.7. Interim Turfing.

7.7.1. General. Interim turfing of the exterior slopes of all newly constructed or rebuilt containment dikes, ingress and egress corridors, areas disturbed by the Contractor's operations outside the dikes, and any other areas of disturbances identified by the Contracting Officer, shall be performed immediately after completion of the construction of the placement site and containment structures.

7.7.2. Materials. See Section 00800(B), Para. 10.6.3.

7.7.3. Interim Turfing Plan. The Contractor's plan for interim turfing is subject to approval by the Contracting Officer and shall be included in his Dredged Material Placement and Mitigation Plan.

7.8. Protection of Areas Adjacent to Containment Structures.

7.8.1. General. The Contractor shall take all precautions which in the opinion of the Contracting Officer may be necessary to prevent the escape of material through pipelines, weirs, embankments and bulkheads, or otherwise into navigable waters or into adjacent upland and wetland areas.

7.8.2. Mechanical Equipment. No mechanical equipment shall be allowed in any wetland area unless specific approval is given by the Contracting Officer.

7.8.3. Drainage. Development of the placement site shall be done so as to prevent obstruction of drainage on upland areas adjacent thereto, and to leave free, clear and unobstructed outfalls of sewers, drainage ditches, and other structures affected by the placement operations.

7.8.4. Containment Area Structure Restoration. The Contractor shall restore any feature of a containment area structure as required to prevent the escape of dredged material from the placement site on to adjacent areas.

7.8.5. Physical Features Outside of Containment Structures. The Contractor shall be solely responsible for all dikes, roads, pavements, curbs, signs, lawns, bulkheads or any other property or area he disturbs during his performance of the work under this contract. The Contractor shall be required to repair any such damage at his own expense and to the satisfaction of the Contracting Officer.

7.8.6. Inspection. Prior to the commencement of operations and after the completion thereof, a joint inspection by representatives of both the Contractor, the Contracting Officer and local interests pertaining to the above will be made.

7.9. Costs for Construction and Maintenance of Containment Structures. All embankments or bulkheads with necessary weir(s), required for confinement and control of the dredged materials to meet WQC effluent discharge requirements, shall be provided and maintained by the Contractor, and the cost thereof included in the applicable contract price.

8. Contractors Placement Site Operations.

8.1. General. All dredged material shall be deposited as evenly as possible by normal hydraulic or mechanical filling operations. The Contractor shall submit his plan of operations to the Contracting Officer and commence operations subject to Contracting Officer approval.

8.2. Surface Topography. Depressions in which pools of water will collect and stagnate shall not be formed either during or after placement operations. Mounds constructed during placement operations shall not be formed higher than the freeboard elevation of the confining dikes. Sloping topography shall direct flows towards outlet structures and away from areas of the site where water will become trapped. All areas shall be graded as required, and in the opinion of the Contracting Officer, left as level and slightly as possible at the end of placement site operations.

8.3. Drainage Structures and Features. The Contractor shall be required to construct solely at his expense, such other drainage structures and features as may be directed by the Contracting Officer to provide suitable drainage of the placement site and any adjacent area where the drainage is affected by operations in the placement site.

8.4. Work Stoppage. In the event of a temporary stoppage of work during the period April to November, the elevation of the weir shall be maintained so as not to allow the pooled water to become stagnant.

8.5. Freeboard. A freeboard of 2 feet or more, measured vertically between the surface of the retained materials, including water, and the top of the adjacent confining dikes, shall be maintained at all times. If the required freeboard is not met, the Contractor shall stop the pumping/placement of the dredged materials into the placement site until corrective action has been taken which is satisfactory to the Contracting Officer.

8.6. Winter Operation. During winter periods no pumping/placement of dredged materials into the placement site will be permitted when the pooled area behind the spillway is frozen. Open water shall exist in the entire pooled area at all times that the disposal operations are in progress.

8.7. Inspection. The Contractor shall inspect the operation of the placement site on a continual basis. The Contractor shall ensure that an inspection is performed while the dredge is unloading and the discharge is at maximum velocity. The inspection shall include but not be limited to structures, equipment, safety, security, freeboard, drainage and seepage.

8.8. Illumination of Placement and Monitoring Operations. The areas where placement (at the discharge point) and monitoring operations are in progress, shall be illuminated during the hours of darkness. Illumination shall be provided by using portable light equipment such as model No. LDA 16 MTVE manufactured by ALLMAND BROS., INC., or approved equal. A minimum of 3-foot candles of illumination shall be maintained in the immediate vicinity of the placement and monitoring areas.

8.9. Radio Communications. Monitoring the discharge operation by radio communication from the discharge location

to the lever, drag tender or crane operator during all placement operations is required.

8.10. Reporting Requirements. The Contractor shall maintain a daily record of all placement site operations. This requirement shall be made a part of the Contractor's Quality Control Plan, and each record shall be included in the Contractor's Daily Quality Control Report.

9. Control of Dredged Material Placement Site Effluent.

9.1. General. The Contractor shall monitor and control placement site conditions and effluent water quality as prescribed in these specifications. The Contractor's Quality Control Plan shall identify monitoring requirements and corrective measures which will be taken to control placement site conditions to insure that effluent water quality meets the requirements identified in the New York State Water Quality Certification.

9.2. New York State Water Quality Certification (WQC). The Contractor shall comply with all requirements identified in the New York State Water Quality Certificate including all Special Conditions. A copy of the WQC is included in Section 00900(J), Attachment B.

9.3. Weir Height. Weir height shall be reviewed by the Contractor on a continual basis to insure that all effluent water quality requirements are met. The Contractor shall be required to raise the elevation of the weir crest and/or to stop pumping into the placement site, allowing the suspended material to settle out, whenever the turbidity of the effluent at the point of compliance approaches the maximum limit specified in the WQC. All changes in the weir elevations shall be reported by the Contractor in the Daily Quality Control Report.

9.4. Testing.

9.4.1. General. The Contractor shall be responsible for all sampling, testing and reporting, for all required samples and tests, at all points of compliance, as prescribed by these specification. The Contractor shall submit the calibration dates for all applicable testing equipment.

9.4.2. Sample Collection. The sample collection methods described herein shall be followed as applicable to each of

the specified point of compliance locations. Grab samples collected at the weir shall be made up by partially filling, without overflow, a 1-quart container of the mixture flowing over the weir at not less than ten different places along the length of the weir and combining the mixture in a clean bucket or other suitable container. Grab samples of the mixture taken from the lake or river shall be obtained in a clean bucket or other suitable container submerged to a depth of not over 2 feet, unless the depth and location are otherwise specified.

9.4.3. Tests at the Weir. Samples for effluent monitoring at the weir shall be taken while the dredge is discharging into the placement site whenever practicable. The Contractor shall record the time that the sample was collected/tested, the depth of flow over the weir and the status of the dredge at time sample was collected.

9.4.3.1. Turbidity. Samples at the weir shall be taken and tested for turbidity in accordance with the WQC (see Section 00900(J), Attachment B). Turbidity testing shall be required during overflow and following any reduction in weir height (e.g. removal of flash boards). The Contractor shall record the time when the weir height was reduced and the time the effluent overflow was sample/tested. Test results and times for all samples taken shall be reported in the Contractor's Daily Quality Control Report.

9.4.3.2. Settleable Solids. Samples at the weir shall be taken and tested for settleable solids in accordance with the WQC (see Section 00900 (J), Attachment B). Test results and times shall be reported in the Contractor's Daily Quality Control Report.

9.4.3.3. Other Tests. Other tests for effluent monitoring shall be performed and reported at the frequencies prescribed by these specifications.

9.4.4. Chemical Clarification of Effluent. The use of a polymer flocculant is required whenever the effluent turbidity exceeds 500 NTUs for more than 2 hours regardless of the flow. The Contractor's polymer, including Manufacturer's specifications, MSDS and recommended dosing, shall be submitted for approval prior to commencement of placement operations. The Contractor shall use the polymer in accordance with the Manufacturer's recommendations to effectively control the effluent. The approved chemical

clarifier shall be stored on the placement site, and be ready for use, should corrective measures be required.

9.4.5. Visual Quality. The Contractor shall note and record in the Daily Quality Control report the visual quality of the effluent (clear, slightly turbid, very turbid) overflowing at the weir.

9.4.6. Laboratory Services. Sample analysis shall be undertaken at an approved laboratory meeting New York State Health Department approval standards.

9.4.7. Reporting Requirements. Records of all water quality test results shall be submitted to the Contracting Officer and to the NYS Department of Environmental Conservation, in accordance with these specifications. Any corrective measures, if needed, shall also be submitted to each of the above, and included on the Contractor's Daily Quality Control Report.

10. Final Clean-up.

10.1. General. The Contractor shall be solely responsible for all work required for the final clean-up of the placement site, and other associated features, utilized for this contract.

10.2. Drainage of Surface Water. Following the completion of dredging operations, the ponded water behind the effluent discharge weir shall be drained to the surface elevation of the adjacent fill area. Discharge through the effluent weir during the decanting process shall be controlled so as not to contravene the effluent water quality standards. The Contractor shall continue water quality testing of the effluent as prescribed in para. 9.4.3, regardless of the flow, until drainage of the ponded water behind the weir is complete. Interior containment structures shall be breached at suitable locations to permit surface water to flow to the effluent discharge weir. The excavated material shall be stockpiled in an approved location for use in the construction of secondary dikes. Material not used shall be spread evenly over the fill area.

10.3. Secondary Dikes. After drainage of surface water from the fill area, the Contractor shall construct secondary dikes at each breach and spillway location. The secondary dike shall have a top width of 3 feet and a top elevation 2 feet

above the surface of the material in the fill area adjacent to the dike. The secondary dike shall be constructed entirely of the excavated embankment material or sandbagged material and shall not cover or include any wood or other debris. The secondary dike shall be tied into the main dike and shall not any portion of the spillway structure unless otherwise approved by the Contracting Officer. Openings in the main dike shall then be made on both sides of the secondary dike to below the surface of the fill material to provide surface drainage of the fill area. All slopes constructed to form the openings shall not be steeper than 1:1.5. Sandbags or turf shall be installed to line the top and constructed slopes of the openings to prevent erosion of the dikes) and/or the adjacent fill material. The above plan shall be included as part of the Contractor's Dredged Material Placement and Mitigation Plan.

10.4. Felled Trees. Upon completion of placement operations, the Contractor shall completely bury or remove any felled trees, or portions of felled trees, left exposed above the ground line within the placement site. Any material removed from the placement site shall be disposed of in compliance with Federal, State and Local regulations.

10.5. Removal of Containment Area Structures. Structures (i.e. weirs, pipelines, etc) installed by the Contractor for use in his placement operations shall be removed and the Contractor shall repair and stabilize all areas affected by the removal of these structures as approved by the Contracting Officer. Any structure the Contractor proposes to leave in place, if approved by the Contracting Officer, shall be fully secured from access, non-hazardous to normal usage, and shall not allow the escape of placed material or be in any way a detriment to the stability and integrity of other structures in the surrounding area.

10.6. Permanent Turfing.

10.6.1. General. Upon completion of all other operations in the placement site, the Contractor shall establish permanent turf for the stabilization and restoration areas affected by his operation as identified in these plans and specifications. The Contractor's permanent turfing plan is subject to approval by the Contracting Officer and shall be included in his Dredged Material Placement and Mitigation Plan.

10.6.2. Turf Areas. The Contractor shall establish a permanent turf on the following areas: the top, exterior and interior slopes of the retaining dikes; the fill area from the interior toe of the dike to 10 feet out from the toe; ingress and egress corridors (except included areas delineated as wetlands); and all other areas on or outside the dike disturbed by the Contractor's operations.

10.6.3. Materials. The Contractor shall furnish all materials, plant, labor, and equipment required for the establishment of interim and permanent turf. The following seed mixes are recommended for both interim and permanent turf:

Fall seed mix: Azure Sheeps Fescue @ 10#/Ac
Reliant Hard Fescue @ 10#/Ac
Western Wheatgrass @ 10#/AC
Blue Stem @ 10#/Ac
Canada Blue Grass @ 10#/AC

Spring seed mix: Azure Sheeps Fescue @ 10#/Ac
Reliant Hard Fescue @ 10#/Ac
Switchgrass @ 10#/Ac
Blue Stem @ 10#/Ac
Canada Blue Grass @ 10#/Ac

The Contractor may submit alternative seed mixes for approval. The proposed turf plant species shall be types that are compatible to the Hudson Valley climate and that will thrive in the conditions found at the site.

The following soil amendment is recommended: 10x10x10 fertilizer @ 600#/Ac.

10.6.4. Installation. The installation of turfing materials shall be accomplished by whatever means the Contractor elects subject to approval by the Contracting Officer. All surfaces that have been damaged by the Contractor's operations and/or by erosion, that in the opinion of the Contracting Officer require restoration, shall be repaired by the Contractor prior to seeding.

10.6.4.1. Seeding Period. Permanent seedings shall be made during the period between May 1st and August 15th. Temporary fall seeding shall be made during the period between August 16th and September 30th. Seeding shall be prohibited between October 1st and April 30th. The Contractor shall immediately

stabilize all areas requiring turf that have not been seeded, at such time seeding is prohibited. This interim stabilization shall be approved by the Contracting Officer.

10.6.4.2. Interim Stabilization. The Contractor shall stabilize all areas that have not established a satisfactory stand of turf within 30 days of the end of current seeding period and in those areas which he plans to seed at the start of the following seeding period. Such interim stabilization plan is subject to approval by the Contracting Officer and shall be included in the Contractor's Dredged Material Placement and Mitigation Plan.

10.6.5. Inspection and Acceptance of Turfed Areas. The Contracting Officer will inspect the turfed areas 30 days after seeding is completed to insure that there is a satisfactory stand of turf to prevent erosion of the underlying soil. A satisfactory stand of turf is defined as turf which is free from disease and injurious insects, with a minimum of 100 grass plants per square feet. Rejected areas of turf shall be reseeded within acceptable planting dates as directed by the Contracting Officer.

10.7. Wetlands Restoration and Mitigation. The Contractor is responsible for completion of all work required in Section 00900(D), "Wetlands Restoration and Mitigation". See Section 00900(D) for all work requirements and performance measures.

10.8. Final Inspection of Placement Site. As soon as practicable following completion of the Contractor's final clean-up operations, a joint inspection of the placement site shall be made by representatives of the Contractor, the Contracting Officer and local interests. The Contractor shall have ready for acceptance all work required under para. 10, "Final Clean-up". All turfing areas that have not been accepted in accordance with para. 10.6.5 shall have been stabilized by the Contractor prior to this inspection and will be reinspected at the appropriate time.

11. Payment.

11.1. General. The cost of all plant, labor and materials required to perform the work associated with the dredged material placement site, including design, preparation, construction, operation, final clean-up or any other applicable cost, shall be included in the Contractor's unit price for dredging.

11.2. Withholding of Payment for Turfing. The Contracting Officer will determine the amount to be retained as a final payment based on the total remaining areas to be turfed. Final payment will be made upon acceptance of all turfed areas as defined in para. 10.6.5.